IN THE SPECIFICATION:

Pages 5 - 7, amend the paragraphs starting on page 5 at line 5 and ending on page 7 at line 13 as follows:

-- Referring to the drawings in particular, the measuring head according to Figure 1 comprises a two-part cylindrical housing with a first housing part 21, which is shown at the bottom of Figure 1 and consists of a suitable steel alloy (machining steel) and can be machined with precision according to conventional manufacturing methods such as turning and milling. Cylindrical bars 31, 3 are used as magnet poles for the magnet system. Between these cylindrical bars 31, 3 a precise air gap is formed. Cylindrical bars 31, 3 are located in the longitudinal axial center of the central axis of the first and second housing parts 21, 2. The air gap may be set and adjusted by a bar 31 or 3 that can be rotated and axially moved, e.g., in a thread 33. The geometrically adapted first magnet coil body 4 is mounted in the first housing part 21 and forms the first part of the magnet system. The second part of the magnet system is formed by the second housing part 2, likewise made of a steel alloy. The second magnet coil body ~~6~~ 5 with the integrated gas guide 7 as well as with a shaped sample gas cuvette support 6 is introduced into the second part of the magnet system.

The sample gas cuvette in the sample gas cuvette holder 1 is positioned in an accurately fitting manner and precisely in the sample gas cuvette support 6 between the housing parts 21, 2 and the cylindrical bars 31, 3 forming the magnet poles. The sample gas cuvette holder 1 is thus also protected mechanically. The assembled housing parts 2, 21 form the housing of the

measuring head; and are used to accommodate the magnet coil bodies 4, 5 and at the same time replace hitherto needed magnet coil cores, which are manufactured and mounted as separate components. Due to the shape selected, electromagnetic leakages to the environment are avoided and external electromagnetic disturbances are screened. In addition, a compact, robust and inexpensive design is guaranteed. The gas guide 7 for introducing and removing the gas sample is embodied by two gas channels in the wall of the second magnet coil body 5, which channels extend in parallel to the longitudinal axis of the cylindrical second housing part 2. The two gas channels open at the sample gas cuvette support 6 in the gas inlet and outlet 8, 81 of the sample gas cuvette holder 1. The connection to the external gas guide, e.g., to a gas sampling system of an anesthesia or respiration system, is established by two sleeves 9, 91 connected to the second housing part 2. The sleeves 9, 91 are used as tube connections for the external gas feed and removal.

Figure 2 shows an alternative design of the measuring head, where identical parts are designated with the same reference numbers. The gas is guided by a module 10 that mechanically connects the two housing parts 2, 21 via webs and recesses and consists of a material not conducting the magnetic flux, specifically a plastic, especially a polysulfone or the material sold under the name POCAN® (polybutylene tetrephthalate (PBT)), which is integrated in the magnet system by fitting together the housing parts 2, 21. The module 10 thus couples the housing parts 2, 21 at a defined distance, establishes the gas guide, integrates the sample gas cuvette holder 1 including the sample gas cuvette, and protects same

mechanically. The sample gas cuvette support 6 is located in the area of the central axis on the module 10. As in the first exemplary embodiment, gas is admitted into and removed from the sample gas cuvette via the gas inlet and outlet 8, 81. The connection to an external sampling system is established with the sleeves 9, 91 integrated within the module 10, as a consequence of which the gas sampling system is relieved of mechanical stress due to the module 10 and the coupling of the module with the rest of the magnet system. The interference of external mechanical effects on the sample gas cuvette holder 1 on the measurement is thus largely avoided. This equally applies to the exemplary embodiment according to Figure 1 with the connection to an external gas sampling system via the sleeves 9, 91. Due to the gas flow being guided within the magnet system, the power loss of the magnet system guarantees the preheating of the gas sample to be measured, as a result of which rapid, nearly wattless regulation to the working temperature is possible in the interior of the sample gas cuvette.--.